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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/533,383	04/29/2005	Johannes Antonius Reinders	05589.0004.PC/US00	7064
32894	7590	07/01/2010	EXAMINER	
HOWREY LLP-EU C/O IP DOCKETING DEPARTMENT 2941 FAIRVIEW PARK DR., SUITE 200 FALLS CHURCH, VA 22042			FLANIGAN, ALLEN J	
			ART UNIT	PAPER NUMBER
			3744	
			MAIL DATE	DELIVERY MODE
			07/01/2010	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary****Application No.**

10/533,383

**Applicant(s)**REINDERS, JOHANNES  
ANTONIUS**Examiner**

Allen J. Flanigan

**Art Unit**

3744

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 5/12/2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6, 10-14, 16-18 and 20-24 is/are pending in the application.
- 4a) Of the above claim(s) 13, 14, 16-18 and 20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6, 10-12 and 21-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

Claims 13, 14, 16-18, and 20 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention or species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 6/30/2008.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-6, 10, 11, 21, 23, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yasutake et al. in view of Lamich and Dinulescu.

As pointed out previously, Yasutake et al. show a heat exchanger construction with internal and external fins provided on plate members 2 that separate the fluids exchanging heat (Figs. 1, 2). Further, in a variation shown in Fig. 17, a moisture retaining porous layer 39 is formed on the internal fins. The plates, as well as the fins, are disclosed as being formed of a clad brazing sheet that permits furnace brazing. Such sheets, clad with heat fusible filler, are well known in the art. The laminate sheets 2 are joined to each other via spacers 9, 12 to form flow passages. Thus, the only limitations of claim 1 that Yasutake et al. lacks is the corrugated form of the fin structure 11, and the recited "polymer adhesive". Lamich shows that it is known to provide internal fins for heat exchanger passages that are corrugated for both fluids (see Fig. 4), and it would have been obvious to one of ordinary skill in the art at the time the instant invention was made to substitute the corrugated fin structure shown in Lamich et al. for the fin structure of spacer 8 shown in Yasutake et

al. Also, Dinulescu teach that it is known to substitute an organic structural adhesive (epoxy type resin is given as one possibility) for bonding with brazing or soldering compounds. Thus, it would have been obvious to one of ordinary skill in the art at the time the instant invention was made to employ the polymer adhesive taught in Dinulescu as a laminate or layer provided on the plate members 2 of Yasutake et al. to adhere the fin structures to the plates. Both of the proposed modifications involve a mere substitution of one element known in the art for another with predictable results. See MPEP 2141 III (B).

Please note the specific comments made in regard to the various dependent claims listed above in the Office Action dated 9/26/2008.

Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yasutake et al. in view of Lamich and Dinulescu as applied to claim 21 above, and further in view of Sakai.

Sakai show a wettable/hydrophilic layer formed of nonwoven fibers disposed on fins. It would have been obvious to one of ordinary skill in the art at the time the instant invention was made to substitute this hydrophilic layer for the porous layer 39 of Yasutake et al., such being no more than the substitution of one porous/wettable layer for another.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yasutake et al. in view of Lamich and Dinulescu as applied to claim 11 above, and further in view of Takai et al.

Takai et al. show that it is known to form flow passages with an enclosed corrugated fin by folding a single strip and joining the edges (rather than a two piece construction as shown in Lamich), and it would have been obvious to one of ordinary skill in the art at the time the instant invention was made to form the passages of Yasutake et al. as modified above to include an corrugated internal fin in this manner, such being a mere substitution of one known tube construction for another.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allen J. Flanigan whose telephone number is (571) 272-4910. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler can be reached on (571) 272-4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Allen J. Flanigan/  
Primary Examiner, Art Unit 3744